

## CLAIMS

What is claimed is:

- 1           1. In an active noise cancellation system having exhaust noise and anti-noise  
2     initiating at sources positioned perpendicular to each other, a noise management  
3     arrangement comprising:  
4           a noise cancellation enclosure containing a noise cancellation space, said space  
5     being in communication with a noise cancellation port and an exit port coaxial with said  
6     noise cancellation port; and  
7           an opening for receiving the exhaust noise from an exterior of said enclosure and  
8     communicating the exhaust noise into said space, said opening oriented relative to the  
9     flow of exhaust so as to generally direct the noise towards said exit port, thereby  
10    minimizing the exhaust noise that impinges upon the enclosure.
- 1           2. The noise management arrangement of claim 1 wherein the cross sectional area of said  
2     exit port is at least ten percent greater than a sum of the cross sections of said noise  
3     cancellation port and said opening.
- 1           3. The noise management arrangement of claim 1 further comprising an inner spout  
2     portion located within said noise cancellation space and in fluid communication with said  
3     opening.
- 1           4. The noise management arrangement of claim 3 wherein said noise cancellation space  
2     has a spacial volume, less the spatial volume of said inner spout portion, greater than or  
3     equal to twice the spatial volume of said noise cancellation port.

1 5. The noise management arrangement of claim 1 further comprising at least one prong  
2 positioned on said enclosure to facilitate its mounting.

1 6. The noise management arrangement of claim 1 wherein said enclosure is formed of  
2 aluminum.

1 7. The noise management arrangement of claim 1 further comprising a screen positioned  
2 across said noise cancellation port.

1 8. In an active noise cancellation system having an anti-noise speaker enclosure  
2 and an exhaust component, each with an output directed perpendicular to the other, a  
3 noise management arrangement comprising:

4 a noise cancellation enclosure containing a noise cancellation space, said space  
5 being in communication with a noise cancellation port and an exit port coaxial with said  
6 noise cancellation port, said noise cancellation port being adapted for receiving the  
7 speaker enclosure output;

8 a conduit adapted for receiving the exhaust component output, said conduit  
9 having an inner spout portion extending into said space and directing the exhaust noise  
10 towards said exit port, thereby minimizing the exhaust component output that impinges  
11 upon the enclosure.

1 9. The noise management arrangement of claim 8 wherein the cross sectional area of said  
2 exit port is at least ten percent greater than a sum of the cross sections of said noise  
3 cancellation port and said pipe.

1    10. The noise management arrangement of claim 8 wherein said noise cancellation space  
2    has a spatial volume, less the spatial volume of said inner spout portion, greater than or  
3    equal to twice the spatial volume of said noise cancellation port.

1    11. The noise management arrangement of claim 8 further comprising at least one prong  
2    positioned on said enclosure to facilitate its mounting.

1    12. The noise management arrangement of claim 8 wherein said enclosure is formed of  
2    aluminum.

1    13. The noise management arrangement of claim 8 further comprising a screen  
2    positioned across said noise cancellation port.

1           14. An active noise cancellation system for a vehicle having a noise emitting  
2 exhaust component and side exiting exhaust gas, the system comprising:

3           a speaker enclosure for emitting anti-noise;

4           a noise cancellation enclosure containing a noise cancellation space, said noise  
5 cancellation space being in communication with a noise cancellation port and an exit port  
6 coaxial with said noise cancellation port and arranged for allowing exhaust gas to exit  
7 from side of a vehicle, said noise cancellation port being adapted for communicating said  
8 anti-noise into said noise cancellation space;

9           a conduit for connecting to the exhaust component, at least a portion of said  
10 conduit being exterior of said noise cancellation enclosure and perpendicular to said noise  
11 cancellation port, said conduit also having an inner spout portion extending into said  
12 noise cancellation space and directing the noise towards said exit port, thereby  
13 minimizing the noise that impinges upon the enclosure.

1           15. The noise management arrangement of claim 14 wherein the cross sectional area of  
2 said exit port is at least ten percent greater than a sum of the cross sections of said noise  
3 cancellation port and said pipe.

1           16. The noise management arrangement of claim 14 wherein said noise cancellation  
2 space has a spacial volume, less the spatial volume of said inner spout portion, greater  
3 than or equal to twice the spatial volume of said noise cancellation port.

1           17. The noise management arrangement of claim 14 further comprising at least one  
2 prong positioned on said enclosure to facilitate its mounting to the vehicle.

1 18. The noise management arrangement of claim 14 wherein said enclosure is formed of  
2 aluminum.

1 19. The noise management arrangement of claim 14 further comprising a screen  
2 positioned across said noise cancellation port.